

# H.N.T. Gordon Product - Use and Care Instructions

## HNT Gordon FAQ's

**Q: Why don't HNT Gordon planes have a chip breaker?**

**A:** A chip breaker's purpose is to break off the wood shaving before it has the potential to tear the grain prior to the blade cutting it cleanly to leave a smooth surface. To achieve this the chip breaker is designed to increase the angle at which the shaving is bent up against the front of the blade. On a Stanley plane this is about 60 - 70 degrees. Therefore, a plane with a 60 degree blade angle achieves the desired effect of a chip breaker. Another point here is also the fact that a 60 degree cutting angle has an element of scraping which decreases the strength of the shaving lessening the requirement to break the shaving off before it tears the grain. Also, the more I get to know about planes the more I think a chip breaker does little to prevent tearout. I have personally seen a low angle (LA) smoother with the same effective cutting edge as a standard Bailey pattern plane with a chip breaker and the LA smoother with no chip breaker caused less tearout on some cranky red cedar.

**Q: Aren't wooden planes without a mechanical adjustment difficult to set to the right depth?**

**A:** A correctly fitted wedge will allow for easy adjustment of the blade depth by tapping with a small hammer. This is only made difficult if you have an ill fitting wedge. The use of a blade setting block will also simplify this process which is fully explained in the instructions with each plane and on this website at blade setting.

**Q: Will the wood body crack or warp?**

All timber used in HNT Gordon planes is kiln dried down to 6 - 8 % moisture content which is a good average for most workshop conditions. The timbers used are also selected based on their excellent stability qualities. Of course if these planes are exposed to extremes of dryness for extended period you may get some surface checks or minor cracks, but they are very unlikely to warp or cause problems with the fitment of the wedge. If you intend to store a plane for extended periods, and you are not sure of the conditions, place the plane in a sealed plastic bag to protect it from the elements. If you have any of these problems you will need to reconsider where you are doing your woodworking as these problems will also be present in the timber being used for your woodworking project.

**Q: What is the difference in the wood sole of the rebate plane and the brass sole of the shoulder planes?**

**A:** The shoulder plane is designed for cleaning up end grain shoulders of wood which can be quite harsh on the sole, hence a brass sole was used to protect the base of the plane, but it tends to have more friction making it slightly harder to push. The rebate plane is primarily used for cleaning up a rebate along the grain where damage to the sole is less of an issue and allows for a smoother easier action to reduce the work load. Either plane can be successfully used for both

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purposes but care should be exercised when using the rebate plane to clean up a hardwood shoulder.

## **Q: Why don't HNT Gordon planes have a strike button to adjust or remove the blade?**

**A:** A strike button limits the place you can tap the plane to adjust the blade. A person with expertise in adjusting these types of plane will strike the plane in different places to move the blade precisely where they want it. E.g. striking the plane at the left side of the heel will only reduce the depth of cut on the left side of the plane. This could not be achieved if the plane had a strike button in the centre of the heel. Also the timber used is very tough and very little damage is done to the plane when striking it lightly with a small hammer. A small wooden mallet is the best option if you are concerned about damaging the plane body with a steel hammer.

## **Q: What do you think is the optimum mouth spacing should be to reduce tearout?**

**A:** There is no exact answer to this question due to the untold combinations of the wood we plane and the various, blade angles, blade thicknesses and quality of the planes. This is what I know to date:

- Mouth spacing gets less critical as you increase the blade pitch, to the point where mouth spacing has no bearing on the performance of a 90 degree scraper plane.
- A fine mouth spacing (less than 0.2 mm) will help reduce tearout on some woods but there are no guarantees that it will stop tearout. This tight mouth spacing may cause other problems such as the shaving catching in the mouth and obviously restricts the plane to taking very fine shavings.
- In a wooden plane a mouth spacing > 1 mm may cause the shaving to concertina in the mouth area causing the throat to clog up with shavings.
- An adjustable mouth plane has some merit in that you can set the mouth fine if required but, there are several things to consider a) the adjusting mouth must be precisely made to ensure it functions properly, b) the experience required, to know what the optimum mouth spacing is for a certain wood or planing task, would need to be extensive and c) even if you get the mouth at the optimum spacing there is a fair chance on some woods that tearout will still occur.

I believe the optimum mouth spacing for a HNT GORDON smoother is 0.3 mm, and my tolerance on a smoother is 0.3 - 0.5 mm. I use this spacing because it gives good practical results when planing most woods including good shaving removal. If I come across a wood that shows signs of tearout with the smoother setup to plane at 60 degrees blade pitch, I will immediately convert the plane to a 90 degree scraper by reversing the blade. Doing this will ensure I can smooth the wood surface without worrying about tearout.

In conclusion I believe the mouth spacing debate will remain a matter of various opinions and tearout will occur if you rely on mouth spacing to solve your problem. If you use cranky woods the only sure way I know to avoid tearout is to stick to the saying "If you can't plane it, scrape it!"

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**Q: The bodies and wedges in your planes are generally made from very hard woods. I would expect that it would be more difficult to get the iron bedded tightly compared to a case where you have a softer wood for one of the parts. The Japanese tend to use oak for their plane bodies, which they say has just enough compression to securely hold the wedge-shaped blade. I took a tool-making seminar a few years ago from a guy named Yeung Chan (he's a California furniture maker and also makes nearly all of his own hand tools) – Yeung suggested using a softer wood for the wedges such as Poplar (not sure you have that in Australia) to get a tighter fit when using a very hard wood for the body of the plane. Do you think a more compressible wedge would be of any benefit in your planes to help secure the iron more tightly?**

**A:** It is much easier to fit a wedge made from a softer wood because the wedge wood will compress as required to give a good fit. This is OK initially but because the wedge was not a perfect fit in the first place the softer wood will compress more in one area than another and I believe over time the area being compressed the most will come to a point where it won't compress any more, e.g. it will be hard up against the abutment in this one spot, whereas the area not compressed as much will not be as hard up against the abutment as the other area causing the wedge to be tighter in one area than the other. This differential in the pressure along the wedge will most likely cause the wedge not to hold the blade as well as it should. This will be made worse if the other side of the wedge has different pressures in different places when compared to the other side.

You can be easily tricked into thinking the wedge fits right when you use a softer wood for the wedge, and the problem above will result. Therefore I use the same wood in the wedges I use which forces me to get the perfect fit which negates the problems mentioned above. If you got the perfect fit with a softer wood should not present any problem but there is not much between a good and bad wedge.

**Q: For your shoulder planes, I noticed that you make them with a 60 degree bed angle. I often use iron shoulder planes for trimming tenons and that can involve cutting across the grain or on the end grain. I have always thought that for these applications a lower bedding angle would provide a smoother and easier cut. Why did you decide to use such a high angle on your shoulder planes? Are there applications where this would work better (aside from cutting along the grain in hardwoods)?**

**A:** The 60 degree blade pitch is about 10 to 15 degrees above that of a shoulder plane with a low bed, due to the bevel up situation in these planes. When I tested the difference between say a 45 degree pitch say in record shoulder plane, and the 60 degrees in my plane I found no difference in the ability to do shoulder plane work on a majority of woods. What I found was important was the blade needed to be sharp and the bevel angle had to be no more than 30 degrees. With really soft woods the low angle shoulder plane worked very slightly better but if I sharpened the bevel to 25 degrees it was hard to pick the difference. However, there was a big benefit with the 60 degree blade pitch if I used the shoulder plane to plane rabbits or rebates, particularly in curly woods and I had the benefit of being able to use the plane as a scraper by reversing the blade. This benefit outweighed the very minimal degrade in performance when planing the shoulder on very soft woods.

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**Q: I have just received my first HNT Gordon plane - a smoothing plane with the HSS blade which I purchased from MIK in Adelaide and am looking forward to using it on some box making projects. I have read your instructions re sharpening the blade.**

**I have a Tormek sharpening machine with a water cooled grindstone and a leather honing wheel. Tormek advise that they do not see any need to hollow grind blades. I am anxious to ensure that I do not jeopardise the ability of the plane by incorrect sharpening. Do you have any particular instructions for sharpening your blades on these type of systems?**

**A:** The tormek sharpening machine is fine for putting a hollow ground bevel on the blade. Set your tool rest up so you grind the bevel at 30 degrees which is the current angle it is sharpened at. It will take a while to put the hollow grind in it to start with but when you re-sharpen it won't take long at all. I recommend a hollow ground bevel because it makes it easier to get a sharp edge on thick blades.

Once you have put a hollow in the bevel I recommend you finish the sharpening on a 6000 grit flat waterstone using a standard sharpening technique. There is some good info on my website for sharpening.

**Q: What is the best wood to use in the plane body?**

All timbers used for the plane body are very suitable for this purpose and will provide good serviceability and long life. It really comes down to your budget and personal preference based on the look of the wood. However, here are some points to consider:

- Cooktown Ironwood has more of a natural oily feel to it than other timbers. Its texture is not quite as fine as the acacias or ebony and is generally is not as beautiful.
- Acacias ( Gidgee, Mulga and Desert Rosewood) have a very fine texture and are generally very beautiful.
- Macassar Ebony has a romance because of its beauty, but generally it is not quite as dense as Ironwood or the acacias.

**Q: Will the sole of the wooden planes wear?**

**A:** Yes, the sole of any plane be it wood or metal will wear because of the friction created when planing wood. However, the hard dense timbers used in the sole will wear very little over the life of the tool. Wood on wood has very little friction hence wear is minimal.

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**Q: Which blade should I choose, High Speed Steel (HSS 18% Tungsten) or High Carbon Tool Steel (TS)?**

**A:** In the smoothing and trying planes where you have a choice of HSS or TS, your choice should be based on the intended use of the plane. If you intend to do a lot of scraping a HSS blade will hold its edge much longer due to this metal being designed to hold an edge under high heat. If your main use for the plane is just planing then the TS blade will be just as good as the HSS blade. Both blades can be sharpen to a very fine edge with good sharpening equipment but the HSS blade will usually take a bit longer to sharpen. Also cost is a factor here.

**Q: What is the advantage of a HNT Gordon Plane over a common metal plane?**

**A:** HNT Gordon Planes are designed with a higher blade angles for use on cranky/interlocking grain timber which would normally tear when a standard metal plane is used. These planes give you the option to plane or scrape the wood as required to give a smooth finish. Also the smoothing and trying planes handle design allows you to push or pull the plane which is very handy when planing large flat surfaces, go to planing a table top.

**Q: Why do you use such thick blades?**

**A:** Thick blades eliminates chatter. Chatter can leave unwanted marks on the timber and will help induce the dreaded tear out. Also a thick blade eliminates the requirement for a backing iron which can cause problems if not fitted just right.

**Q: Why didn't Stanley or Record make a plane with a 60 degree blade angle?**

**A:** For the exact answer you probably have to ask these companies, but here is my opinion: 45 degrees is the optimum cutting angle for wood in its pure form. E.g. with straight grain. Cutting at 45 degrees also has less of a blunting effect on the blade edge, so in theory this would seem the best angle to use to mass produce a plane. However, in practice this angle is not so effective because timber is rarely the straight grained medium a 45 degree plane was designed to smooth. A higher blade pitch will start to induce an element of scraping which will reduce the likely hood of inducing tear out. Also if you increase the blade pitch to 60 degrees in any plane you also increase the effort required to push the plane through the wood, so combined with the additional friction of a metal plane it would have made using the plane very hard work.

Guarantee: Unconditional guarantee on workmanship and materials.

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